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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/453,319	12/02/1999	STEVEN M. SHEPARD	64631-0020	2455

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RADER, FISHMAN & GRAUER PLLC
39533 WOODWARD AVENUE
SUITE 140
BLOOMFIELD HILLS, MI 48304-0610

EXAMINER

VERBITSKY, GAIL KAPLAN

ART UNIT PAPER NUMBER

2859

DATE MAILED: 07/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/116,356

Applicant(s)

RICHARD ET AL.

Examiner

Gail Verbitsky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-17 is/are allowed.
- 6) ☒ Claim(s) 1-14 and 18-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Claim Objections

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not). Misnumbered claim 24 has been renumbered 29.

Claim Rejections - 35 USC § 102

2. The following is a quotation of 35 U.S.C. 102(b) which forms the basis for all obviousness rejections set forth in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 18-19, 27-28 are rejected under 35 U.S.C. 102(b) as anticipated by Devitt et al. 5111048 [hereinafter Devitt].

Devitt discloses in Fig. 1 a device and method of applying a mechanical stress with stressing fixtures (means for applying force with attachments) 12 and 68 to a component/ sample/ specimen 18 already having a crack or (purely) subsurface defect so that the crack becomes detectable / exacerbated (col. 7, lines 28-46). Inherently, the dimensions of the crack

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increase. Devitt also uses a flash lamp (col. 4, line 44) to apply heat and an infrared radiation detector such as an infrared radiometer or video camera 16 to analyze a response to heating and stress application.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Devitt in view of Lebeau et al. (U.S. 5201841) [hereinafter Lebeau]

Devitt discloses in Fig. 1 a device and method of applying a mechanical stress with stressing fixtures (means for applying force with attachments) 12 and 68 to a component/sample/ specimen 18 already having a crack or subsurface defect so that the crack becomes detectable / exacerbated (col. 7, lines 28-46). Inherently, the dimensions of the crack increase. Devitt also uses a flash lamp (col. 4, line 44) to apply heat and an infrared radiation detector such as an infrared radiometer or video camera 16 to analyze a response to heating and stress application.

Devitt does not explicitly states that the force is an ultrasound or an acoustic energy, as stated in claim 29.

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Lebeau discloses a device and method in the field of applicant's endeavor wherein a stress applied to the device by means of an impact source which can be an ultrasound.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device and method disclosed by Devitt, so as to use an ultrasonic energy as a source of a force applied to the sample, as taught by Lebeau, so as to disturb the device such that the defect becomes easy to detect by the operator.

Allowable Subject Matter

6. A) Claims 15-17 are allowed.

B) Claims 2, 4-14, 20-26 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112.

Response to Arguments

7. Applicant's arguments filed on April 30, 2003 have been fully considered but they are not persuasive.

Applicant states that Devitt's defect is not a kissing unbond because it is not a subsurface defect and that the method is not an NDE. This argument is not persuasive because, in col. 7, Devitt discusses a subsurface defect. Although, the stress applied to the component, can open the defect, Devitt teaches that the stress applied to a sample material/ component is below the stress intensity level and factor below a characteristic damage threshold (col. 3, lines 30-34, col. 7, lines

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30-34), and that the laser power (heating) must not be high so as not to damage the component (material) under test. Thus, inherently, Devitt's method is a non-destructive to the component. Applicant states that in Devitt's, the stress will open the thermal discontinuity, but not exacerbate. This argument is not persuasive because, according to Webster's Dictionary, 10th Edition, "exacerbating" means "to make more violent, bitter or severe", page 403. Therefore, in a broadest reasonable interpretation, opening of the thermal discontinuity of Devitt can mean making it more severe and thus, to exacerbate a subsurface defect. Also, in the claims, applicant does not rule out opening of the surface as the result of a stress. It is the claims that define the claimed invention, and it is claims, not specifications that are anticipated or unpatentable. Constant v. Advanced Micro-Devices, Inc. 7 USPQ 1064. In Devitt's, as the result of the stress applied to the device (sample), the defect which is a subsurface defect in the beginning, grows and migrates to the surface.

Conclusion

8. Any inquiry concerning this communication should be directed to Examiner Verbitsky whose telephone number is (703) 306-5473.

Any inquiry related to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956.

GKV

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July 03, 2003

Gail Verbitsky

A handwritten signature in cursive script, appearing to read 'G. Verbitsky', written in black ink.

Patent Examiner, TC 2800